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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,610	04/14/2004	Hee-jeon Yang	1572.1247	5084
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SUITE 700				
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WASHINGTON, DC 20005				
EXAMINER				
BHAT, ADITYA S				
ART UNIT		PAPER NUMBER		
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/823,610	<b>Applicant(s)</b> YANG ET AL.	
	<b>Examiner</b> Aditya S. Bhat	<b>Art Unit</b> 2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 November 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9, 14 and 15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 14 and 15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-9 and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Song et al. (USPN 6,487,472).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

With regards to claim 1, Song et al. (USPN 6,487,472) teaches a process control method managing a semiconductor device manufacturing process, including an operation of a system with a plurality of sub-modules, comprising:

checking a process condition of the system; (10; Refer to figure 2) and  
informing a user of operational states of the sub-modules and the process condition of the system. (Col. 8, lines 17-29)

diagnosing an operational state of the plurality of sub-modules prior to beginning the semiconductor device manufacturing process and beginning the semiconductor device manufacturing process. (80-84;figure 20) (70-74;figure 7)

With regards to claim 2, Song et al. (USPN 6,487,472) teaches a diagnosing an operational state of I/O (input/output) devices of the sub-modules prior to beginning the semiconductor device manufacturing process; and informing the user of the operational state of the input/output devices of the sub-modules. (Col. 7, lines 31-34)

With regards to claim 3, Song et al. (USPN 6,487,472) teaches the diagnosing of the operational state of the plurality of sub-modules includes operating a diagnosis program module to operate a sub-module to perform a diagnosis program. (Col.8, lines 1-4)

With regards to claim 4, Song et al. (USPN 6,487,472) teaches the checking the process condition of the system includes operating a performance diagnosis program module, to check a performance of the system, to perform the performance diagnosis program. (Col.8, lines 1-4)

With regards to claim 5, Song et al. (USPN 6,487,472) checking whether the operational states of the sub-modules and the process condition are normal by comparing a predetermined normal operation value range with a value estimated from a result of the diagnoses of the sub-modules. (Col. 8, lines 32-38)

With regards to claim 6, Song et al. (USPN 6,487,472) teaches selecting, by a user, which object or objects of a plurality of objects are to be diagnosed, prior to beginning the semiconductor device manufacturing process. (Col.7, lines 42-45)

With regards to claim 7, Song et al. (USPN 6,487,472) teaches diagnosing of the sub-modules includes diagnosing a performance condition of equipment based upon at least one of sampled voltage, currents, torques and operational speeds related to the equipment. (Col.8, lines 17-19)

With regards to claim 8, Song et al. (USPN 6,487,472) teaches the equipment comprises system components, including various chambers, a conveyor, and a furnace, and parts of system components, including a valve, a pump, a controller, and a roller, in the semiconductor device manufacturing process. (Refer to figure 7)

With regards to claim 9, Song et al. (USPN 6,487,472) teaches the diagnosing of the operational state of the plurality of sub-modules includes selectively diagnosing some but not all of the plurality of sub-modules. (Col.7, lines 26-29)

With regards to claim 14, Song et al. (USPN 6,487,472) teaches a computer readable code controlling a system to perform the method of claim 1. (Col.8, lines 1-5)

With regards to claim 15, Song et al. (USPN 6,487,472) teaches a process control method managing a semiconductor device manufacturing process, including an operation of a system with a plurality of sub-modules, comprising:

checking a process condition of the system; (10;Refer to figure 2) and  
informing a user of operational states of the sub-modules and the process condition of the system. (Col. 8, lines 17-29)

diagnosing an operational state of the plurality of sub-modules prior to beginning the first semiconductor device manufacturing process and beginning the semiconductor device manufacturing process. (80-84;figure 20) (70-74;figure 7) (col. 9 ,lines 49-53)

***Response to Arguments***

Applicant is reminded that during patent examination, the pending claims must be "given the broadest reasonable interpretation consistent with the specification." Applicant always has the opportunity to amend the claims during prosecution, and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969).

While the meaning of claims of issued patents are interpreted in light of the specification, prosecution history, prior art and other claims, this is not the mode of claim interpretation to be applied during examination. During examination, the claims must be interpreted as broadly as their terms reasonably allowed. This means that the words of the claim must be given their plain meaning unless applicant has provided a clear definition in the specification. In re Zletz, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989).

In this instance applicant argues that the prior art of record does not teach

- 1) diagnosing an operational state (col. 9 ,lines 49-53) of the plurality of sub-modules prior to beginning the semiconductor device, (80-84;figure 20) (70-74;figure 7)
- 2) an embodiment of the present invention that provides a system for diagnosing the operational states of the semiconductor device, (col. 9 ,lines 49-53)and
- 3) the motivation to combine the references is unclear.

Upon further review of the Song reference does teach the diagnosing step as taught in applicant's claimed invention. The diagnosis of the etching portion of the

semiconductor manufacturing portion is prior to the beginning the semiconductor manufacturing process and the signals received from plurality of ports are being interpreted as the signals received for diagnosis from a plurality of sub modules.

### ***Conclusion***


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shi et al. (USPN 6,970,758) teaches a system and software for data collection and process control in semiconductor manufacturing and method thereof and Nakamoto et al. (USPN 7,047,093) teaches a semiconductor manufacturing apparatus and its diagnosis apparatus and operating system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aditya S. Bhat whose telephone number is 571-272-2270. The examiner can normally be reached on Monday, Tuesday and Thursday between 9 am-5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 571-272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Aditya Bhat  
July 9, 2007

  
John Barlow  
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